

REMARKS

Upon entry of the Amendment, Claims 1-27 are all the claims pending in the application. Claims 6-19 and 21-24 are withdrawn from consideration by the Examiner. Claims 26-27 are new claims directed to the subject matter of Claims 3-4, prior to amendment. Entry of the amendment is respectfully requested.

Reconsideration and review of the claims on the merits are respectfully requested.

Allowable Subject Matter

Applicants appreciate the Examiner's statement that Claim 5 is allowed and that Claims 3-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants amend Claims 3-4 into independent form. Entry of the amendment is respectfully requested. Applicants respectfully submit that Claims 3-5 are now allowable, and such is earnestly requested.

Claim Rejections - 35 U.S.C. § 112

Claim 25 is rejected under 35 U.S.C. § 112, second paragraph, as assertedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Claim 25 is rejected because the claim is assertedly drawn to a method but it is unclear what are the method steps when the only method step as written is “forming an anode...”.

Applicants respectfully traverse the rejection.

Claim 25 contains a method step which is enough to satisfy the requirements of 35 U.S.C. § 112, second paragraph. See MPEP 2173.05(p). If the Examiner maintains the rejection, Applicants respectfully request a more specific cite justifying such rejection.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, second paragraph.

Claim Rejections - 35 U.S.C. § 102 or § 103

Claims 1-2, 20, 25 are rejected under 35 U.S.C. § 102(b) as assertedly anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Katsumata (JP 8-250108, machine translation and abstract) for the reasons given in the Office Action.

These rejections are respectfully traversed.

Claim 1 is amended to more clearly claim Applicants' invention by removing the method limitation and replacing it with the following recitation: “wherein said lithium layer ~~and said metal fluoride substance layer are formed by a vacuum film growth method~~ has substantially no lithium hydroxide or lithium oxide film or the like on the surface thereof.” That is, one of the patentable, structural distinctions of the product by process limitation is now explicitly recited in the claim by the use of a negative limitation.

Katsumata does not anticipate or render obvious each and every requirement of at least Applicants' independent Claim 1. Katsumata does not disclose, teach or suggest "said anode...wherein said lithium layer has substantially no lithium hydroxide or lithium oxide film or the like on the surface thereof".

Katsumata discloses a lithium secondary battery having a negative electrode of lithium or lithium-aluminum alloy as negative electrode active material where the negative electrode active material is covered by a thin lithium fluoride film and also a hydrogen fluoride formed on the surface. Katsumata discloses that a negative electrode is left under an argon gas atmosphere containing a small amount of hydrogen fluoride to form said lithium fluoride film on the surface (See Katsumata, Abstract).

Katsumata is similar to the prior art process described in the present specification describing the problems in a prior art method of forming a lithium fluoride covering film by placing metallic foil made of metallic lithium or a lithium-aluminum alloy in an atmosphere of argon gas or nitrogen gas containing a small amount of hydrogen fluoride so as to cause a reaction, thereby forming a lithium covering film on the surface of the metallic foil (anode). In this case, if a covering film already exists on the surface of the metallic lithium, there is a tendency for the reaction to be non-uniform, particularly if there is a plurality of covering films, thereby making it difficult to form a complete lithium fluoride covering film. Additionally, because this method uses a reaction between hydrogen fluoride and a boundary with metallic lithium to form lithium fluoride, it is not suited to the case in which it is necessary to form a

thick lithium fluoride covering film. As a result, it is not possible to achieve a lithium secondary cell with satisfactory cycle performance. (See bridging paragraph of pages 3-4).

The present invention is distinguished from the structure of Katsumata's faulty process. In the present invention, there is no lithium hydroxide or lithium oxide film or the like on the surface thereof, as occurred in the past (See page 10, lines 13-17 and Comparison Example 4, pages 31-32).

Claims 2, 20 and 25 depend upon or are based on the subject matter of independent Claim 1 and are patentable for at least the same reasons as given for the patentability of Claim 1 above.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under either 35 U.S.C. §102(b) or 35 U.S.C. § 103(a). Allowance of all pending, but not withdrawn, claims is earnestly requested.

Conclusion

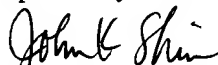
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/985,852

Q67040

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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